

# Destination Chemistry

Dr Robert Johnson



## Chemistry

Medicinal Chemistry & Chemical Biology

Chemistry with Sustainable & Environmental Chemistry



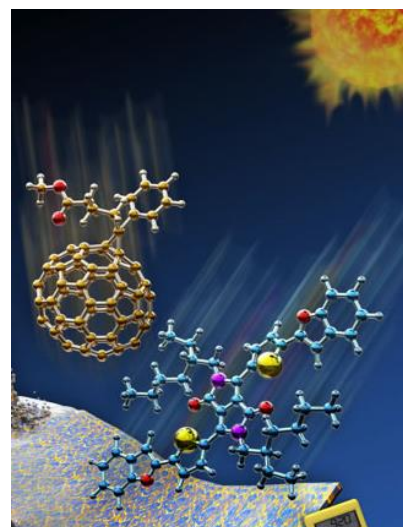
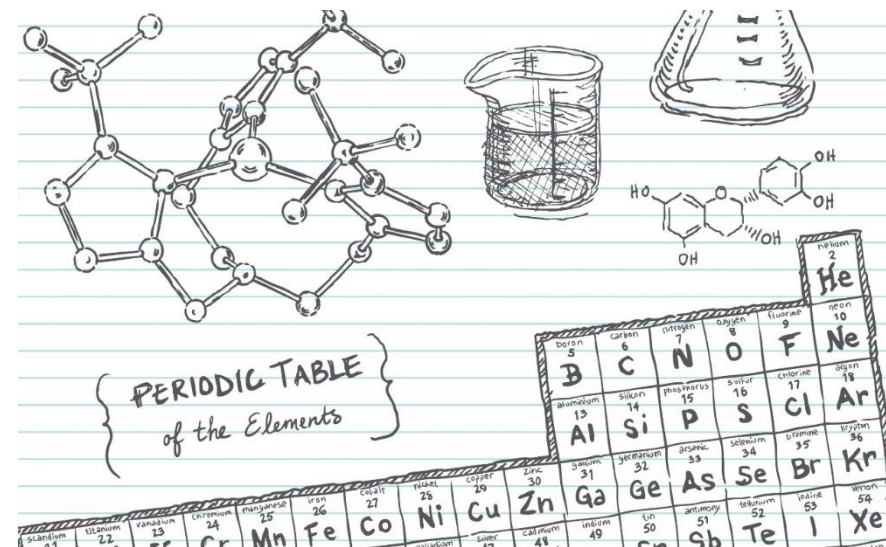
Stage 3 Advisory Session

# Chemistry



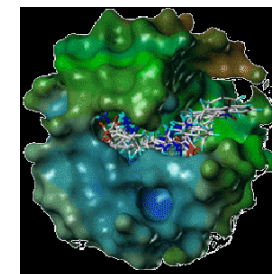
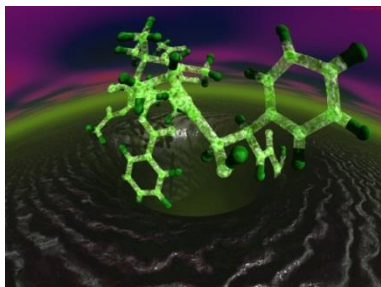
- **Chemists**

- **Investigate** the natural world, e.g. they study the structures and properties of naturally occurring substances in the environment and in living things.
- **Invent** new substances to **solve problems**, e.g. they design and synthesise new medicines and **new materials**



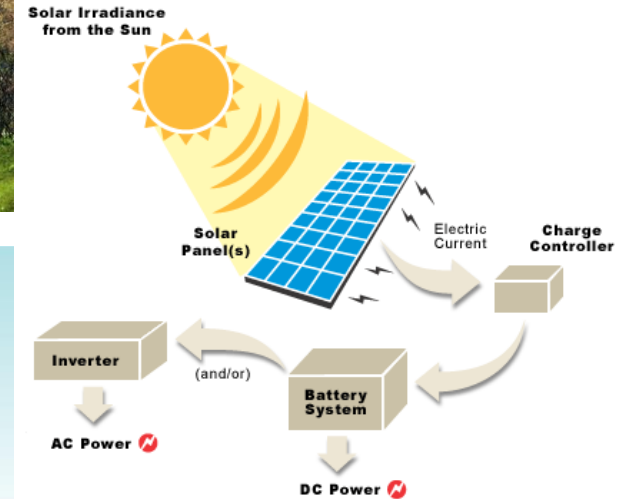
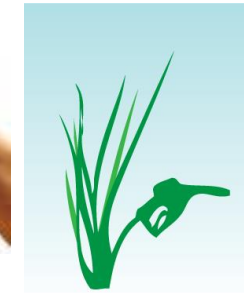
It's easy to overlook how reliant we are on the products made by chemists!

# Medicinal Chemistry & Chemical Biology



- a) Provides an understanding of **chemical basis of biology** and can be described as the “Chemistry of Life and Medicine”
- b) Our **chemical biologists and medicinal chemists** will also develop the next generation of medicines and vaccines.

# Chemistry with Environmental & Sustainable Chemistry



## Environmental & Sustainable chemists:

- measure and **minimise** the detrimental effects of industrial processes on the environment
- use **sustainable** resources to drive our transport, energy and production sectors without decreasing our living standards.

# Chemistry in Year 3



**Autumn:**

CHEM30200  
Carbonyl Chemistry &  
Synthesis

CHEM30210  
Structural Determination &  
Heterocyclics

CHEM30220  
Mechanism and  
Stereochemistry

+

CHEM30060  
Quantum Mechanics

CHEM30110  
Instrumental Analysis

OR

CHEM30280  
Medicinal Chemistry

XXXX (Option)  
e.g., PHAR30010,  
MICR30030, CHEM30110

**Spring:**

CHEM30320  
Chemical  
Thermodynamics

CHEM30310  
Soft Matter & Interfacial  
Chemistry

CHEM30320  
Symmetry &  
Computational

CHEM30320  
Organometallic & Solid  
State

CHEM30360  
Advanced Transition Metal  
Chemistry

OR

CHEM30260  
Chemical Biology of  
Natural Products

CHEM30190  
Chemical Biology of  
Macromolecules

BIOC30030  
Biochemists Toolkit

XXXX (Option)  
e.g., BMOL30020,  
CHEM30360, MICR30090

XXXX (Option)  
e.g., BMOL30020,  
CHEM30360, MICR30090

DENISCO



# Huge Opportunities



Wyeth

Baxter



Bristol-Myers Squibb



Lilly



NOVARTIS



Unilever NANOGAP<sup>®</sup> SUBNANOPARTICLES



JANSSEN PHARMACEUTICAL LTD

